

AMENDMENTS TO THE CLAIMS

Please cancel claims 4 and 9 without prejudice.

1. (CURRENTLY AMENDED) A router comprising:

a first port configured to receive a first frame having
(i) a source media access control (MAC) address, (ii) a first
network layer protocol identification immediately following said
5 source MAC address and (iii) a network layer address following said
network layer protocol identification;

a second port connectable to a Multi-Protocol Label
Switching (MPLS) network; and

10 a circuit configured to (i) insert a first MPLS label
into said first frame while retaining said first network layer
protocol identification, ~~and~~ (ii) present said first frame in said
MPLS network, (iii) receive a second frame having a second MPLS
label and a second network layer protocol identification, and (iv)
present said second frame external to said MPLS network per said
second network layer protocol received in said second frame.

2. (PREVIOUSLY PRESENTED) The router according to claim
1, wherein said circuit is further configured to:

5 receive a second frame having a second network layer
protocol identification having a difference value than said first
network layer protocol identification;

insert a second MPLS label into said second frame while retaining said second network layer protocol identification; and forward said second frame in said MPLS network.

3. (PREVIOUSLY PRESENTED) The router according to claim 2, wherein said circuit is further configured to:

transmit said first frame along a path in said MPLS network; and

transmit said second frame along said path.

4. (CANCELED)

5. (PREVIOUSLY PRESENTED) The router according to claim 1, wherein said circuit is further configured to:

transmit a plurality of frames having a plurality of different protocol through a single traffic-engineered path in said MPLS network.

6. (ORIGINAL) The router according to claim 5, wherein said transmission through said traffic-engineered path is bidirectional.

7. (PREVIOUSLY PRESENTED) The router according to claim 1, wherein the circuit is further configured to:

create an MPLS label stack field between a data link
layer address field and a network layer protocol identification
5 field in said first frame; and

insert said first MPLS label into said MPLS label stack
field.

8. (CURRENTLY AMENDED) A method of operation in a
Multi-Protocol Label Switching (MPLS) network comprising the steps
of:

(A) receiving a first frame having (i) a source media
5 access control (MAC) address, (ii) a first network layer protocol
identification immediately following said source MAC address and
(iii) a network layer address following said first network layer
protocol identification;

(B) inserting a first MPLS label into said first frame
10 while retaining said first network layer protocol identification;
and

(C) presenting said first frame in said MPLS network;

(D) receiving a second frame having a second network
layer protocol identification different than said first network
15 layer protocol identification;

(E) inserting a second MPLS label into said second frame
while retaining said second network layer protocol identification;
and

(F) forwarding said second frame in said MPLS network.

9. (CANCELED)

10. (CURRENTLY AMENDED) The method according to claim 9
8, further comprising the steps of:

transmitting said first frame along a path in said MPLS
network; and

5 transmitting said second frame along said path.

11. (PREVIOUSLY PRESENTED) The method according to claim
8, further comprising the steps of:

receiving a second frame having a second MPLS label and
a second network layer protocol identification; and

5 presenting said second frame external to said MPLS
network per said second network layer protocol identification
received in said second frame.

12. (PREVIOUSLY PRESENTED) The method according to claim
8, further comprising the step of:

transmitting a plurality of frames having a plurality of
different protocol through a single traffic-engineered path in said
5 MPLS network.

13. (ORIGINAL) The method according to claim 12, wherein transmitting through said traffic-engineered path is bidirectional.

14. (PREVIOUSLY PRESENTED) The method according to claim 8, wherein step (B) comprises the sub-steps of:

creating an MPLS label stack field between a data link layer address field and a network layer protocol identification field in said first frame; and

inserting said first MPLS label into said MPLS label stack field.

15. (ORIGINAL) The method according to claim 8, wherein said MPLS network is defined by a Request For Comment 3031 provided by an Internet Engineering Task Force.

16. (PREVIOUSLY PRESENTED) The method according to claim 8, wherein said steps (A) through (C) are stored in a storage medium as a software program that is readable and executable by a router to insert said first frame into said MPLS network.

17. (CURRENTLY AMENDED) A router comprising:

means for receiving a first frame having (i) a source media access control (MAC) address, (ii) a first network layer protocol identification immediately following said source MAC

5 address and (iii) a network layer address following said first network layer protocol identification;

means for inserting a first Multi-Protocol Label Switching (MPLS) label into said first frame while retaining said first network layer protocol identification; ~~and~~

10 means for forwarding said frame in an MPLS network;

means for receiving a second frame having a second network layer protocol identification different than said first network layer protocol identification;

means for inserting a second MPLS label into said second
15 frame while retaining said second network layer protocol
identification; and

means for forwarding said second frame in said MPLS
network.

18. (PREVIOUSLY PRESENTED) The router according to claim 1, wherein said first frame comprises a Point-to-Point Protocol frame.

19. (PREVIOUSLY PRESENTED) The method according to claim 8, wherein said first network protocol identifier indicates a network layer protocol of data encapsulated by said first frame.

20. (CURRENTLY AMENDED) The method according to claim 9
8, wherein said first frame and second frame and are both
transferred in a same label switched path in said MPLS network.